

## Research Article

# Knowledge of Ardabil dentists regarding dental treatments in patients undergone chemotherapy procedures

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## ABSTRACT

**Background:** Oral cancer is less than 3% of all malignant tumours in the body and is the sixth most common cancer in men and the twelfth most common cancer in women. Now, for the treatment of cancer patients of different treatment methods are used which one of them was chemotherapy and dentists should be considered a person with cancer and is undergoing chemotherapy and skills needed to be aware of.

**Methods:** This cross-sectional study has been done on 124 general dentists in Ardabil province. Data collected by a questionnaire and analysed by statistical methods in SPSS 19. The knowledge rate divided in three groups; week, moderate and good.

**Results:** 50 women and 74 men with a mean age of 35 years. The knowledge rate of dentists in age < 35 was higher than dentists with age >45 years. The knowledge rate was in moderate level and in women was differently from men. Dentists under 10 years work experience have knowledge rate upper than dentists over 10 years of work experience.

**Conclusions:** The results showed that knowledge level of dentists in Ardabil in conjunction with chemotherapy patients was in moderate level. So, for raising the knowledge rate of dentists we need to program training courses in continuous education.

**Keywords:** Cancer, Chemotherapy, Knowledge, Dental treatment

## INTRODUCTION

The prevalence of oral cancer increases with age and about 95% of cancer cases occurs after 40 years. The oral cancer ratio in men three times more than women and 5% of all cancer cases occur in men and 2% in women.<sup>1</sup> Near 95% oral cancers are SCC which covers oral mucosa.<sup>2</sup>

Oral cancer is one of the most common forms of cancer and is one of the 10 most common causes of death in the world. Most oral cancers are diagnosed in advanced stages, and this has caused the prognosis of oral cancer in most parts of the world is not good.<sup>1,3</sup>

Three methods are used for treatment of oral cancer such as radiotherapy, chemotherapy and surgery. Usually the recommended treatment for each person depends on several factors such as the exact location and size of the cancer cells and the general health of individual. Chemotherapy is one of the methods used in the treatment of cancer, prolong the life of the patient and relief the patient's pain by use of certain drugs. This type of treatment has effect on cells and tissues of the body and deal to loss of body hair and dry skin.<sup>4</sup>

Chemotherapy used single or in mix with other methods. It is obvious that without dentistry special care we cannot

prevent complications from chemotherapy prevented or reduced the severity of the symptoms. Dental care should begin before chemotherapy by examination and providing appropriate treatment plan for every patient and then continue. Dentists should examine the patient's mouth before chemotherapy and provide appropriate treatment for storage and extraction of teeth. On average, about one-third of cancer patients have complications after treatment. Therefore, cancer patients before and during treatment should be examined by dentists for sure about their teeth healthy and oral mucosa and the rate of oral complications are minimized. Dentists have main role in treatment of cancer patients and the primary role of them is in early diagnosis of cancer. Dentists recommended that use a fixed method for determining the medical condition, the history and clinical information about the patient and carefully ask a patient about the signs and symptoms of cancer (especially in the head and neck). The aim of this study was to investigate the knowledge rate of general dentists of Ardabil about dental procedures in cancer patients under chemotherapy.

## METHODS

This is a cross sectional study that has been done on 124 Ardabil general dentists. Information gathered by a questionnaire and collected data analysed by statistical methods in SPSS.19. The score of knowledge divided in three groups: week (<10), moderate (10-14) and good (>14). We used the content validity and alpha cronbakh method for reliability of questionnaire.

## RESULTS

50 (40.3%) of dentists were female and rest of them were male. The mean age of dentists was  $35.5 \pm 9.1$  (range 25-62). The mean of knowledge score was  $12.1 \pm 3$  (range 6-19). Most of dentists have moderate knowledge (71.8%). 74 (59.7%) of dentists have true knowledge about time of teeth extract before chemotherapy. 90.3% of dentists have true knowledge about the SCC. The need or lack of need for prophylaxis in patients who are not undergoing chemotherapy depends on the patient's condition which 43.5% of dentists have true knowledge about it. 56.5% of dentists have true knowledge about the tongue as the most common sites for oral cancer. 31.5% of dentists have true knowledge about the time required for the antibiotic prescription. 99.2% of dentists were of the opinion that uses tobacco is as an effective factor in oral cancer. 37.1% of dentists were of the opinion that the best time to provide services for patients undergoing chemotherapy depends on the patient's condition. 6.5% of dentists were of the opinion that the possibility of malignant changes of precancerous lesions is more on the lips which their response was true. To differentiate a malignant lesion from a lesion at least two week is required which 37.9% of dentists have true response about it. The best way for definitive diagnosis of oral lesions was histologic evaluation which in this study 90.3% of dentists has true knowledge. The worst damage was dry mouth after

radiation therapy which only 16.9% of dentists have true knowledge about it and rest of them have false response. The most location for osteonecrosis lesion was posterior mandibular that 64.5% of dentists have true knowledge about it. The best recommended for profelaxia was 2 g Amoxiciline which 95.2% of dentists know it. A week before radiation therapy Hummels and suspicious non-maintenance teeth are pulled and teeth that require endodontic treatment should be treat which in this study 48.7% of dentists have true knowledge about it.

86.3% of dentists were of the opinion that about the best type of contraindications rose in patients exposed to chemotherapy, in this time we should not pull the teeth of these patients.

62.1% of dentists were of the opinion that depending on the type of disease, we can decide on the sensory drug of patients need chemotherapy.

The most prevalent age of oral cancer was 20-40 which in this study only 24.2% of dentists have true knowledge.

Of dentists 82.3% were agree with the opinion that leukoplakia treatment depends to its histopathology. Of dentists 67.7% were of the opinion that the oral cancer firstly produce as a small red area without pain. Of dentists 75.1% were of the opinion that the first step for an oral lesion isn't taken a biopsy.

**Table 1: The knowledge level of dentists by age groups.**

Knowledge level age groups	Week		Moderate		Good	
	N	%	N	%	N	%
25-35	7	41.2	56	62.9	12	69.7
35-45	6	35.3	21	23.6	4	22.2
>45	4	23.5	12	13.5	2	11.1

The good knowledge rate in dentists with lower than 35 years old with 66.7% was more than dentists > 45 years with 11.1% but there wasn't any significant relation between age and knowledge of dentists (Table 1).

**Table 2: The knowledge level of dentists by sex.**

Knowledge level Sex of dentists	Week		Moderate		Good	
	N	%	N	%	N	%
Male	4	23.5	41	46.1	5	27.8
Female	13	76.3	48	53.9	13	72.2

The total rate of knowledge for both male and female dentists was in moderate level and this rate in female dentists was lower than male dentists but this difference not statistically significant (Table 2).

**Table 3: The knowledge level of dentists by job experience.**

Knowledge level Job experience	Week		Moderate		Good	
	N	%	N	%	N	%
<10	10	58.8	68	76.4	14	77.8
>10	7	41.2	21	23.6	4	22.2

In dentists with lower than 10 years' experience the rate of good knowledge was more than other dentists but this difference not statistically significant (Table 3).

## DISCUSSION

In This study the rate of total knowledge between male and female dentists was in moderate level but no significant difference between knowledge rates in two sexes. In Mehdizadeh et al study the rate of total knowledge is in low level and the relation between sex and age and knowledge not statistically significant.<sup>5</sup>

Also in Shiva and et al study there was a difference between male and female knowledge which was not similar to our study results.<sup>6</sup>

Although the rate of good knowledge with 66.7% in dentists with < 35 years old was more than dentists with >45 years old with 11.1%, but the difference not statistically significant.<sup>5</sup>

In our study, 90.3% of dentists have true knowledge about the SCC and this rate was higher than other studies.<sup>5,7</sup>

There was a significant relation between age, sex and knowledge rate, we could say that the rate of knowledge have significant correlation with age and sex. In studies done by Yellowitz, Zareei and Gajendra the rate of knowledge of general dentists about oral cancer is low level.<sup>4,8-9</sup>

The results of this study showed that the knowledge rate of dentists about oral cancer treatment methods was in moderate level which was similar to other studies.<sup>7-11</sup>

Markitziu et al found that in primary evaluation of patients with oral cancer, periodontitis should be done clinical examination, exact radiography and obtained information about patients' medical condition, history of dentistry, health condition and design of treatment and also, should be informed about diagnosis, lesion staging and aim and prognosis of recommended treatment and its duration.<sup>12</sup>

In Zareei et al study, there wasn't significant relation between knowledge and Graduation time<sup>8</sup> but in this study similar to Pai and et al study, the relation was significant.<sup>11</sup>

We could say that the rate of dentist's knowledge is decreasing with graduation time increasing and new graduated dentists compare to other dentists have more knowledge. Also, they found that training in college is one of the sources of their information and after graduation; dentists earn less opportunity to study or do not want to study in this field.

Gajendra et al in a study showed that about 85% of dentists recommend the oral cancer annually clinical examination to patients' upper than 40 years old. Also the dentists have lower knowledge about some risk factors, symptoms, oral clinical examination methods and disease symptoms which was similar to our study results.<sup>9</sup>

Pai and et al in a study showed that most of staff nurses did not receive basic education in oral care of cancer patients and have poor knowledge about cancer patient's oral care. There was significant association between knowledge and variables such as designation, years of work experience and years of experience in cancer wards.<sup>11</sup>

Mottalebi et al in a study showed that the rate of general dentist's knowledge about patients with oral cancer in line with our study was in moderate level and recommended necessary programing for raising the knowledge rate of dentists.<sup>7</sup>

Decuseara et al in a study showed that the rate of general dentist's knowledge wasn't in line with our study and recommended programing to update the information and knowledge dentists about oral cancer.<sup>13</sup>

Fotadar et al in a study showed that the mean knowledge percent of the sample was good and the mean knowledge percent was higher in females than males which was similar to our study results.<sup>14</sup>

Mehdizadeh et al in a study showed that the knowledge rate of general dentists regarding oral cancer is in low level and there wasn't any significant relation between age and sex with knowledge level and this study is similar to our study results.<sup>5</sup>

Shiva et al in a study showed that the knowledge rate of dentists about oral cancer was not sufficient and there were significant difference between male and female dentists in knowledge level and this study is similar to our study results.<sup>6</sup>

## CONCLUSIONS

The result of this study showed that most of general dentists have moderate knowledge and there wasn't relation between rate of knowledge and variables such age, sex and job experience. Doing extensive studies in future and programing for promotion the knowledge level of dentists was necessary. Therefore, it seems suitable to

recommend that dentists require more education in oral care and on the effects of chemotherapy on the oral cavity.

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